

In the Claims:

The present Request for Reconsideration does not seek the amendment, addition or cancellation of any of the claims of this application. Accordingly, the claims of the present application as they presently stand (including appropriate status identifiers) are set forth below solely for convenience of reference in the spirit of the Rules.

1. (Original) An image forming apparatus comprising:
 - an image forming section for forming a pattern chart having a plurality of gradation patterns aligned thereon so as to suppress an uneven concentration appearing depending upon a scale of an electrostatic potential difference on the gradation patterns which are adjacent to each other in a sub-scanning direction of image formation,
 - an image reading section for reading image information from said pattern chart, and
 - an image processing section for adjusting an image forming condition based on the image information.
2. (Original) The image forming apparatus as defined in claim 1, wherein said image forming section forms said pattern chart such that a plurality of the gradation patterns have concentrations arranged in a staggered configuration.
3. (Original) The image forming apparatus as defined in claim 1, wherein said image forming section forms said pattern chart such that the gradation patterns adjacent to each other in the sub-scanning direction are brought into contact with each other.
4. (Original) The image forming apparatus as defined in claim 1, wherein said image forming section forms a dummy pattern which is adjacent to the gradation pattern at an end in the sub-scanning direction on said pattern chart and which is equal or close to the end gradation pattern in concentration.

5. (Original) The image forming apparatus as defined in claim 1, wherein a main scanning direction of image formation is perpendicular to the sub-scanning direction, and said image forming section forms said pattern chart such that a plurality of said gradation patterns are aligned in increasing order of concentration from an end to the other end of said pattern chart.
6. (Original) The image forming apparatus as defined in claim 5, wherein said image forming section forms said pattern chart such that said gradation patterns are aligned in increasing order of concentration from an end to the other end of said pattern chart.
7. (Original) The image forming apparatus as defined in claim 1, wherein said image processing section processes the image information read by said image reading section, with reference to a color of a base of said pattern chart, and said image processing section adjusts the image forming condition based on the processed image information.
8. (Original) The image forming apparatus as defined in claim 7, wherein said image reading section performs a readout-reducing operation so as to obtain a base concentration as an output value of said image reading section when reading a base concentration of said pattern chart.
9. (Withdrawn) An image forming apparatus, comprising;
an image forming section for forming a pattern chart based on first image information with multi-step gradation obtained by adding a dither value of a dither matrix,
an image reading section for reading second image information from said pattern chart through an image filter which is identical to the dither in size, and
an image processing section for adjusting an image forming condition based on the second image information.

10. (Withdrawn) An image forming apparatus, comprising:
 - an image forming section for forming a pattern chart such that a plurality of gradation patterns are aligned,
 - an image reading section for reading image information from said pattern chart, and
 - an image processing section for adjusting an image forming condition based on the image information,
wherein said image forming section forms said pattern chart in which said image reading section has a larger output value on a high-concentration gradation pattern than on a low-concentration gradation pattern.
11. (Withdrawn) An image forming apparatus, comprising:
 - an image forming section for forming a pattern chart based on first image information with multi-step gradation obtained by adding a dither value of a dither matrix,
 - an image reading section for reading image information from said pattern chart, and
 - an image processing section for adjusting an image forming condition based on the image information,
wherein said image processing section performs image processing to obtain a relationship between an input concentration and a dither value of said image forming section based on 1) a relationship between a) a target readout values used as an input concentration for reading performed in said image reading section and b) a readout reference value which is outputted from said image reading section and is inputted to said image forming section, and 2) a relationship between a dither value and an actual readout value obtained by reading said pattern chart in said image reading section.

12. (Original) An image forming apparatus, comprising:
 - image forming means for forming an image on a recording member by forming an electrostatic latent image on a light sensitive element based on first image information;
 - image information input means for inputting second image information obtained based on the image formed on the recording member, and
 - image processing means which processes the second image information and adjusts an image forming condition when the image is a pattern chart having different gradation patterns aligned thereon,

wherein when said image forming means forms said pattern chart, said pattern chart is formed so as to prevent an intensified electric field caused by a potential difference at a boundary of an electrostatic latent image on the gradation patterns which are adjacent to each other in a sub-scanning direction of said image forming means.
13. (Original) The image forming apparatus as defined in claim 12, wherein said image forming means forms said pattern chart such that the gradation patterns adjacent to each other in the sub-scanning direction of said image forming means are brought into contact with each other.
14. (Original) The image forming apparatus as defined in claim 12, wherein said image forming means forms a dummy pattern which is adjacent to said gradation pattern at an end in the sub-scanning direction of said pattern chart and which is equal or close to the end gradation pattern in concentration.

15. (Original) The image forming apparatus as defined in claim 12, wherein said image forming means forms said pattern chart such that said gradation patterns are aligned in increasing order of concentration in a sub-scanning direction of said image forming means and a plurality of said gradation patterns with closest concentrations are aligned in a main scanning direction.
16. (Original) The forming apparatus, comprising:
 - image forming means for forming an image on a recording member based on first image information,
 - image reading means for reading the image formed on the recording member as second image information, and
 - image processing means which processes the second image information and adjusts an image forming condition when the image is a pattern chart having different gradation patterns aligned thereon,
 - wherein said image processing means performs image processing on the second image information and adjusts an image forming condition with reference to a base color of the recording member having said pattern chart formed thereon.
17. (Original) The image forming apparatus as defined in claim 16, wherein said image processing means reduces the quantity of light emitted to said pattern chart when said image reading means reads said pattern chart, or said image processing means performs image processing on the second image information according to a readout value obtained by reducing a readout gain of said image reading means.

18. (Withdrawn) An image forming apparatus, comprising:
- image forming means for forming an image on a recording member based on first image information,
- image reading means for reading the image formed on the recording member as second image information, and
- image processing means which processes the second image information and adjusts an image forming condition when the image is a pattern chart having different gradation patterns aligned thereon,
- wherein the first image information for forming said pattern chart has multi-step gradation by adding a dither value of a dither matrix, and
- said image reading means reads said pattern chart through an image filter which is identical to the dither matrix in size.
19. (Withdrawn) An image forming apparatus, comprising:
- image forming means for forming an image on a recording member based on first image information,
- image reading means for reading the image formed on the recording member as second image information, and
- image processing means which processes the second image information and adjusts an image forming condition when the image is a pattern chart having different gradation patterns aligned thereon,
- wherein said image forming means forms said pattern chart such that said image reading means has a larger output value on a high-concentration gradation pattern than on a low-concentration gradation pattern, based on output accuracy of said image reading means and image forming accuracy on a concentration of said image forming means.

20. (Withdrawn) An image forming apparatus, comprising:

image forming means for forming an image on a recording member based on first image information with multi-step gradation obtained by adding a dither value of a dither matrix;

image reading means for reading the image formed on the recording member as second image information, and

an image processing means which processes the second image information and adjusts an image processing condition when the image is a pattern chart having different gradation patterns aligned thereon,

wherein said image processing means performs image processing to obtain a relationship between an input concentration and a dither value of said image forming means based on 1) a relationship between a) a target readout value of a readout concentration of said image reading means and b) a readout reference value of said image reading means that corresponds to the target value, and 2) a relationship between the dither value and an actual readout value obtained by reading said pattern chart by said image reading means.

21. (Withdrawn) An image processing means comprising the steps of:

a step ‘a’ of reading a predetermined gradation pattern;

a step ‘b’ of obtaining a relationship between a) a target readout value used as an input value of image formation and b) a readout reference value which is outputted as a resulting value of the reading and is used as an input value of image formation,

a step ‘c’ of forming a reading pattern chart composed of a plurality of gradation patterns corresponding to a plurality of dither values,

a step ‘d’ of obtaining a relationship between an actual readout value obtained by reading the reading pattern chart and the corresponding dither value, and

a step ‘e’ of obtaining a relationship between an input value and a dither value during image formation based on the relationships obtained in the steps ‘b’ and ‘d’.

22. (Withdrawn) The image processing method as defined in claim 21, further comprising the steps of:

- a step 'f' for forming a visual pattern chart based on a relationship between an input value and a dither value, said relationship being obtained in step 'e',
- a step 'g' of manually adjusting the relationship by seeing a visual pattern chart, and
- a step 'h' of setting another readout reference value based on the relationship adjusted in the step 'g'.

23. (Withdrawn) The image processing method as defined in claim 21, further comprising a step 'i' of selecting one of a readout reference value of said step 'b' and a readout reference value additionally set in said step 'h'.

24. (Withdrawn) The image processing method as defined in claim 22, wherein said visual pattern chart is formed with fewer gradation steps than said reading pattern chart.

25. (Withdrawn) An image processing method used for an image forming apparatus, in which image forming means forms an image based on image information, said method comprising the steps of:

- a first step of forming a plurality of kinds of gradation patterns corresponding to known different dither values, as a reading pattern chart on a recording member by using said image forming means,

a second step of directly reading a reading pattern chart by image reading means before inputting and storing a relationship between an input value and the dither value, and
a third step of obtaining a relationship between an input concentration and the dither value of the image forming means based on a)
a readout reference value corresponding to a target value of an output concentration of said image reading means and b) the readout value stored in said second step.

26. (Withdrawn) The image processing method of claim 25, further comprising:
- a fourth step of forming a visual pattern chart on a recording member based on a relationship determined in the third step between an input concentration and a dither value,
 - a fifth step of manually adjusting the relationship while seeing said visual pattern chart, and
 - a sixth step of setting the readout reference value at a value corresponding to the target value obtained by the relationship adjusted in the fifth step.
27. (Withdrawn) The image processing method as defined in claim 26, wherein the readout reference value obtained in said sixth step or the readout reference value determined according to a target input value of the input concentration of said third step is used as the readout reference value of said third step.
28. (Withdrawn) An image processing method comprising the steps of;
- forming a first image on a recording member based on first image information,
 - forming a second image on the recording member based on information obtained by reading the first image by image reading means, and
 - adjusting an image processing condition by manual input means which inputs information visually obtained from the second image,
- wherein said first image is larger than said second image in number of gradation steps.